

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

www.miamidade.gov

NOTICE OF ACCEPTANCE (NOA)

USA Aluminum LLC
11 S.W. 12th Avenue, Suite #104
Dania, Florida 33004

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: "Series HS-1000" Aluminum Accordion Shutter

APPROVAL DOCUMENT: Drawing No. 07-06, titled "Series HS-1000 Alum Accordion Shutter", sheets 1 through 7 of 7, prepared by Al-Farooq Corporation, dated March 13, 2007, last revision #A dated August 29, 2007, signed and sealed by Humayoun Farooq, P.E., bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: Large and Small Missile Impact

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of this page 1, evidence submitted page E-1 as well as approval document mentioned above. The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



Helmy A. Makar
10/04/2007

NOA No. 07-0507.06
Expiration Date: 10/04/2012
Approval Date: 10/04/2007
Page 1

USA Aluminum LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. *Drawing No. 07-06, titled " Series HS-1000 Alum Accordion Shutter ", sheets 1 through 7 of 7, prepared by Al-Farooq Corporation, dated March 13, 2007, last revision #A dated August 29, 2007, signed and sealed by Humayoun Farooq, P.E.*

B. TESTS

1. *Test report on Uniform Static Air Pressure Test for USA Aluminum LLC, prepared by Fenestration Testing Laboratory, Inc., Report No. 5201, dated February 27, 2007, signed and sealed by Michael Wenzel, P.E.*
2. *Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Uniform Static Air Pressure Test for USA Aluminum LLC, prepared by Fenestration Testing Laboratory, Inc., Report No. 5100, dated December 11, 2006, signed and sealed by Edmundo Largaespada, P.E.*

C. CALCULATIONS

1. *Comparative analysis and anchor calculations dated April 12, 2007, 65 pages, prepared by Al-Farooq Corporation, signed and sealed by Humayoun Farooq, P.E.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATIONS

1. *Tensile Test Report No. 5100, prepared by Fenestration Testing Laboratory, Inc., dated January 09, 2007, signed and sealed by Edmundo Largaespada, P.E.*

F. OTHERS

1. *Letter by Al-Farooq Corporation, dated April 06, 2007, certifying that USA Aluminum LLC Series HS-1000 Aluminum Accordion Shutter conforms to the 2004 Florida Building Code.*



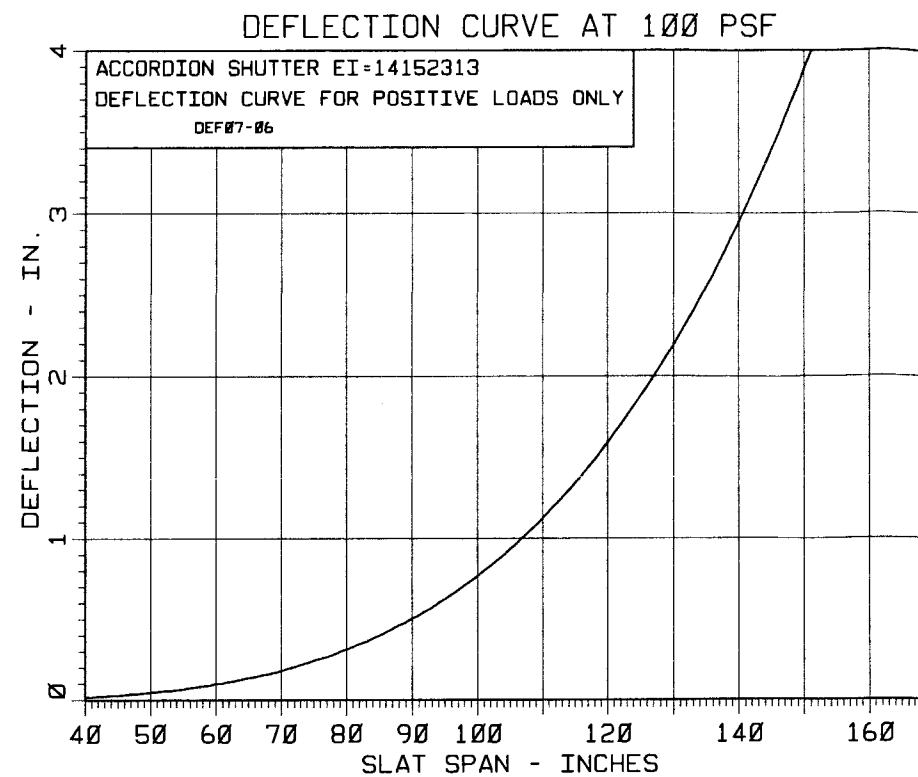
Helmy A. Makar, P. E., M.S.

Product Control Examiner

NOA No. 07-0507.06

Expiration Date: 10/04/2012

Approval Date: 10/04/2007



MINIMUM SEPARATION FROM GLASS				
SEPARATION REQD. DUE TO WIND LOAD			SEPARATION REQD. DUE TO LARGE MISSILE IMPACT	
SHUTTER SPAN = H =	IN.		FOR SLAT SPANS UPTO	SEPARATION
DESIGN LOAD = Pd =	PSF		64"	1-1/4"
FACTOR = K = Pd/100 =	IN.		170"	2-1/2"
READING FROM SPAN D. CURVE = D =	IN.			
DEFLECTION AT Pd = K*D =	IN.			
MIN. SEPARATION REQD. = K*D+1" =	IN.			
FOR INSTALLATIONS UPTO 30' OF GRADE USE MAXIMUM OF WIND LOAD OR IMPACT LOAD REQUIREMENTS SHOWN ABOVE				
FOR INSTALLATIONS ABOVE 30' OF GRADE IGNORE LARGE MISSILE IMPACT REQUIREMENT.				
NOTE: NO PART OF SHUTTER SHALL BE UNDER 30' ABOVE GRADE TO WAIVE LARGE MISSILE IMPACT REQUIREMENT.				

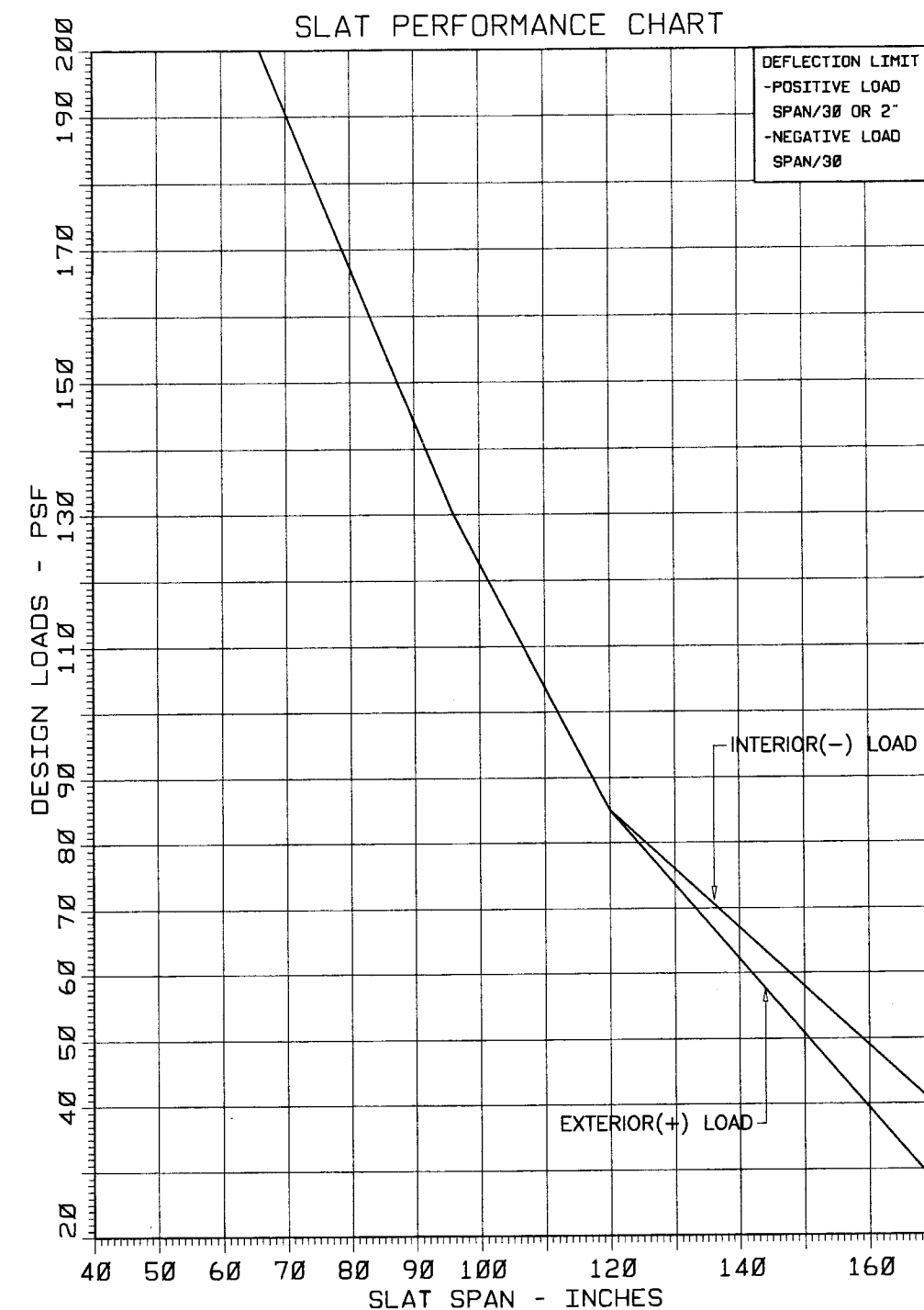
GENERAL NOTES

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2004 EDITION INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- DESIGN CRITERIA FOR ALUMINUM, MINIMUM MECHANICAL PROPERTIES, AND SAFETY FACTORS ARE IN ACCORDANCE WITH THE "ALUMINUM CONSTRUCTION MANUAL" LATEST EDITION.
- ALUMINUM ALLOYS: ALL EXTRUSIONS SHALL BE ALLOY AS SHOWN.
- STEEL SURFACES TO BE PLACED IN CONTACT WITH ALUMINUM SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER IN ACCORDANCE WITH FEDERAL SPEC. NO. TTP-645, OR BE GALVANIZED.
- ANCHORS SHALL BE AS SHOWN ON DETAILS. ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
- ALL BOLTS SHALL BE STAINLESS STEEL, ALUMINUM ALLOY 2024-T4 OR 7075-T6, OR PLATED STEEL. WING NUTS TO BE OF ZINC ALLOY.
- DESIGN CRITERIA FOR SLATS: MAX DEFLECTION \leq THE LESSER OF L/30 OR 2".
- ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
- A LOAD DURATION INCREASE IN ALLOWABLE STRESS IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

PRODUCT MARKING

A LABEL SHALL BE AFFIXED ON LOCKING MEMBER OF UNIT ABOVE LOCK WITH THE FOLLOWING STATEMENT.

USA ALUMINUM LLC, DANIA, FL.
'MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED'



USE SLAT PERFORMANCE CHART TO VERIFY SLAT CAPACITY FOR THE REQUIRED DESIGN LOAD FOR THE PARTICULAR LOCATION.

DESIGN LOADS SHALL BE CALCULATED AS PER REQUIREMENTS OF ASCE 7-02.

Engr: DR. HUMAYGUN FAROOQ
STRUCTURES
FLA. PE # 16557
C.A.N. 3538

SEP 10 2007

Approved as complying with the
Florida Building Code
Date 10/04/2007
NOAH 07-0507-06
Miami Dade Product Control
Division
By Helmy A. Moham

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
ACCORDION/07-06UAL

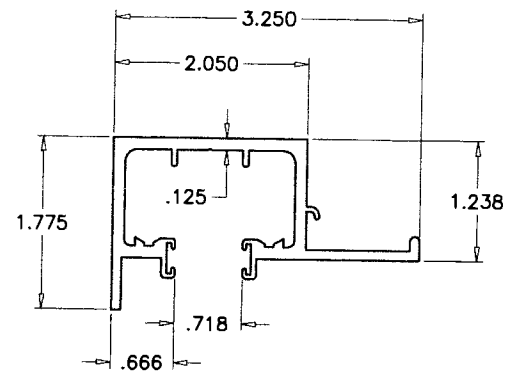
SERIES HS-1000 ALUM ACCORDION SHUTTER
USA ALUMINUM LLC
11 S.W. 12TH AVE. SUITE #104
DANIA, FL. 33004
TEL. (954) 924-4015 FAX. (954) 924-4013

revisions:	no	date	by	description
	A	08/29/07		REV. PER BCCO COMMENTS

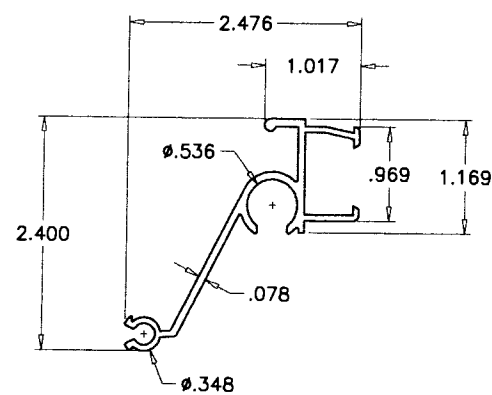
date: 03-13-07
scale: 1/2" = 1"
dr. by: HAMID
chk. by:

drawing no.
07-06

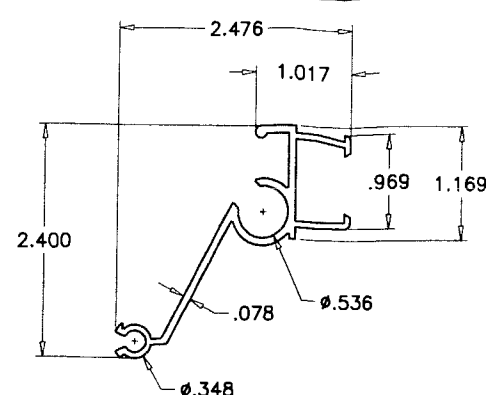
sheet 1 of 7



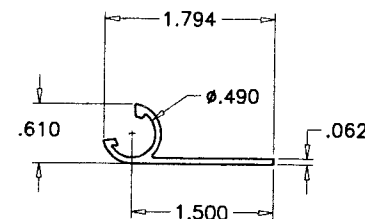
CEILING HEADER
6063-T6



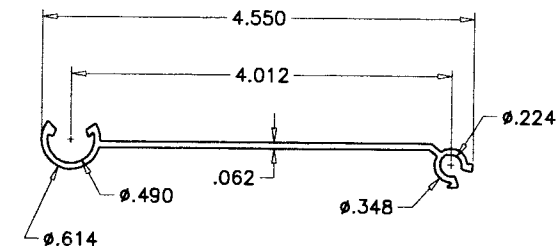
MALE LOCKING SLAT
6063-T6



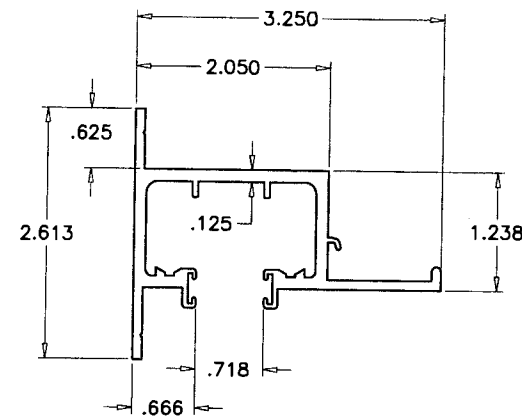
ALT. MALE LOCKING SLAT
6063-T6



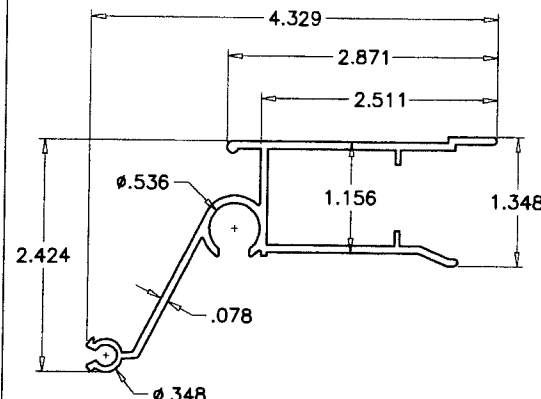
END SLAT
6063-T6



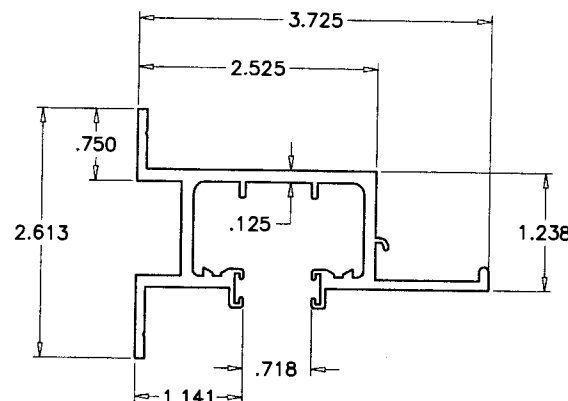
SLAT
6063-T6



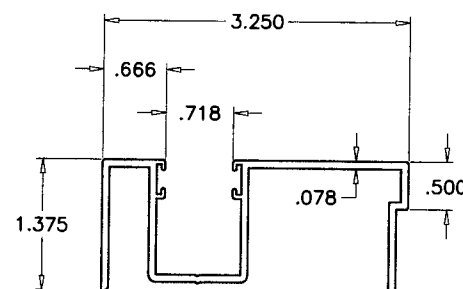
WALL HEADER
6063-T6



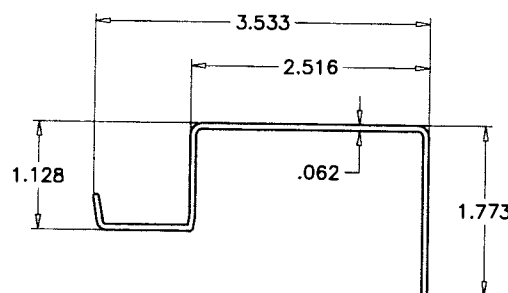
FEMALE LOCKING SLAT
6063-T6



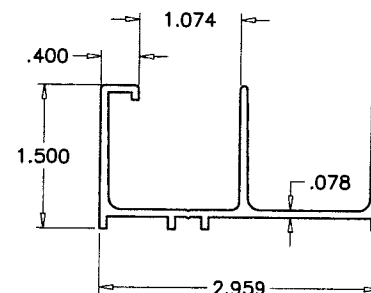
BUILT-OUT WALL HEADER
6063-T6



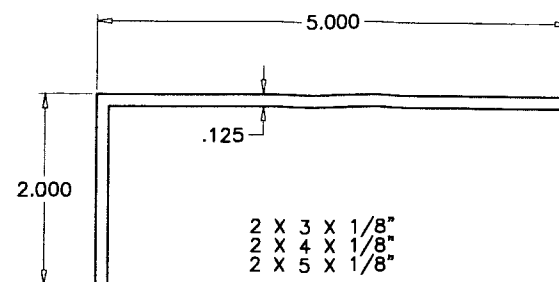
BOTTOM SILL TRACK
6063-T6



RAIN GUARD
6063-T6



BOTTOM TRACK ADAPTER
6063-T6



BUILT-OUT ANGLES
6063-T6

Approved as complying with the
Florida Building Code
Date 10/04/2007
NOAH 07-0507.06
Miami State Technical Center
Division
By Helmy A. M. M.

Engr: DR. HUMAYOON FAROOQ
STRUCTURES
FLA. PE # 16557
C.A.N. 3538

SEP 10 2007

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

SERIES HS-1000 ALUM ACCORDION SHUTTER
USA ALUMINUM LLC
11 S.W. 12TH AVE. SUITE #104
DANIA, FL. 33004
TEL. (954) 924-4015 FAX. (954) 924-4013

no	date	description	REV.	PER	COMMENTS
1	08.29.07	A			

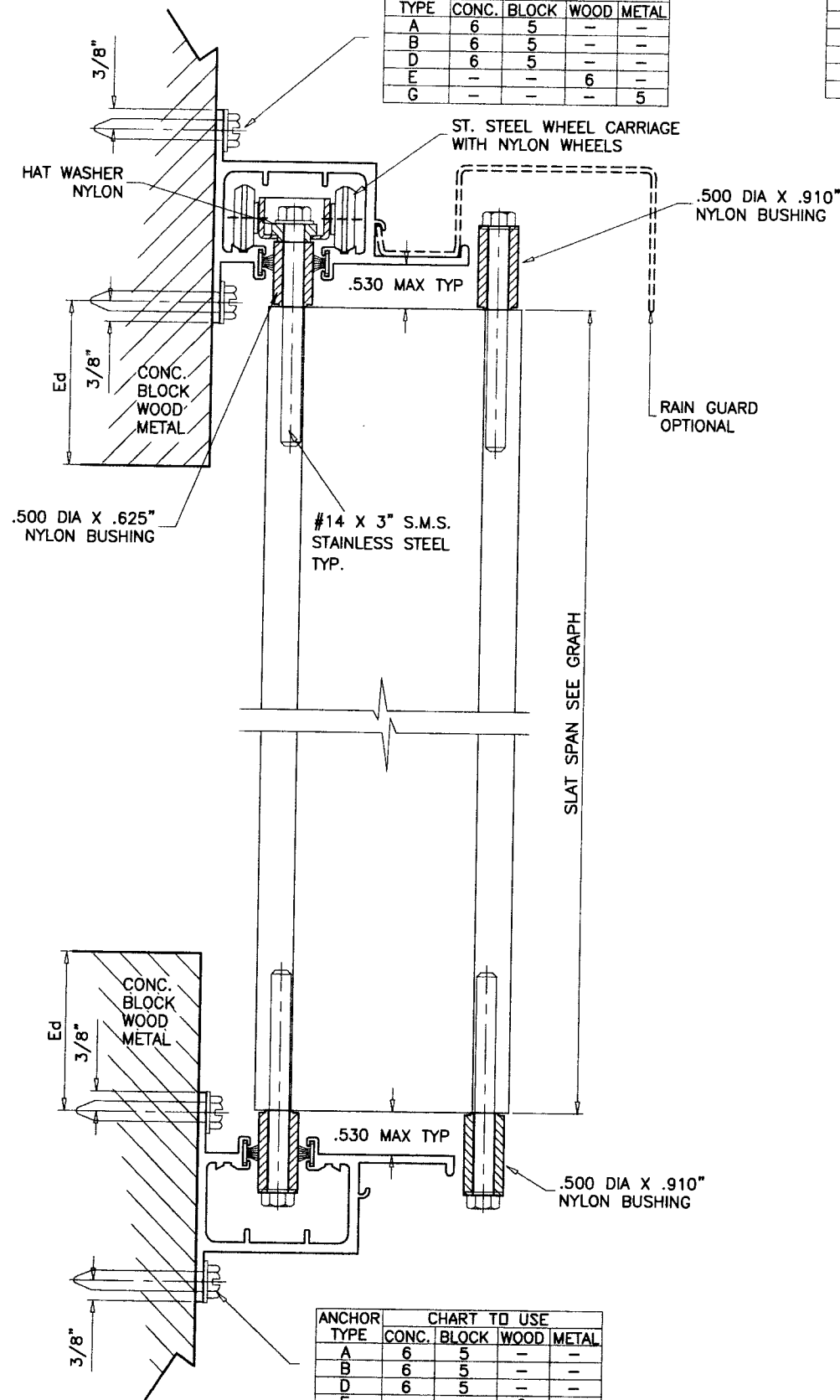
date: 03-13-07
scale: 1/2" = 1"
dr. by: HAMID
chk. by:

drawing no.
07-06
sheet 2 of 7

ALFAROOQ/07-06UAL

WALL MOUNTS

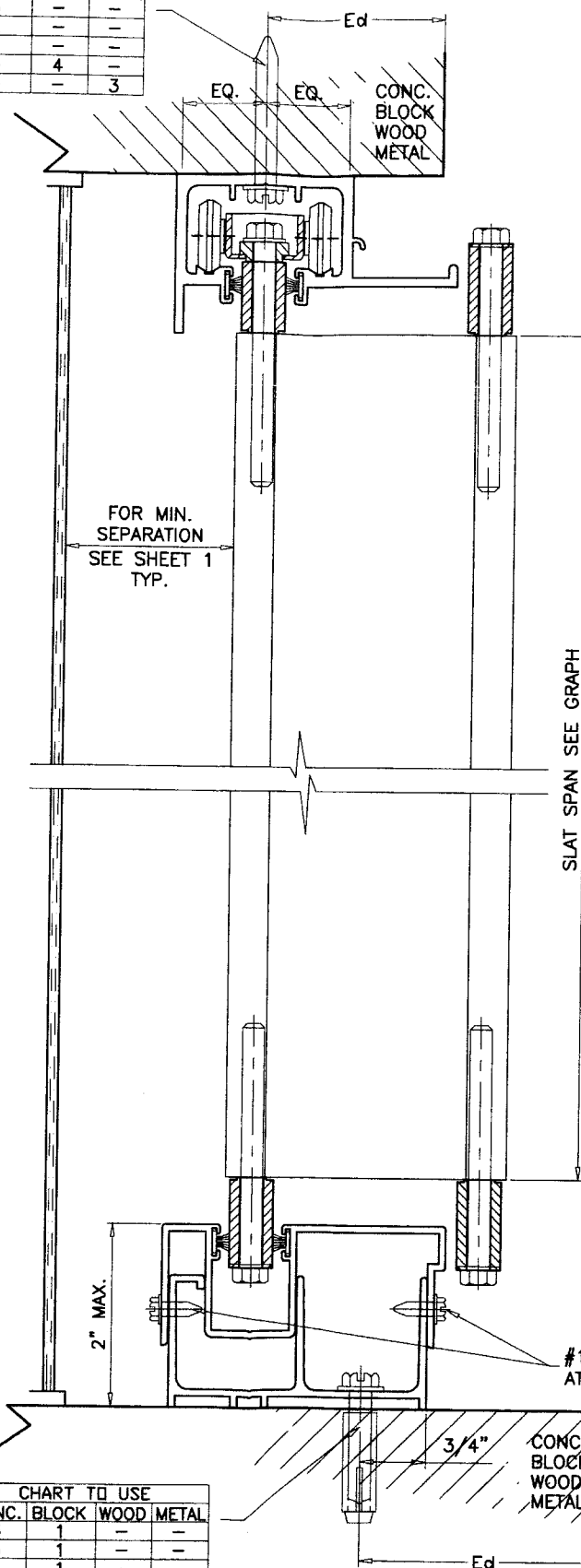
ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	6	5	-	-
B	6	5	-	-
D	6	5	-	-
E	-	-	6	-
G	-	-	-	5



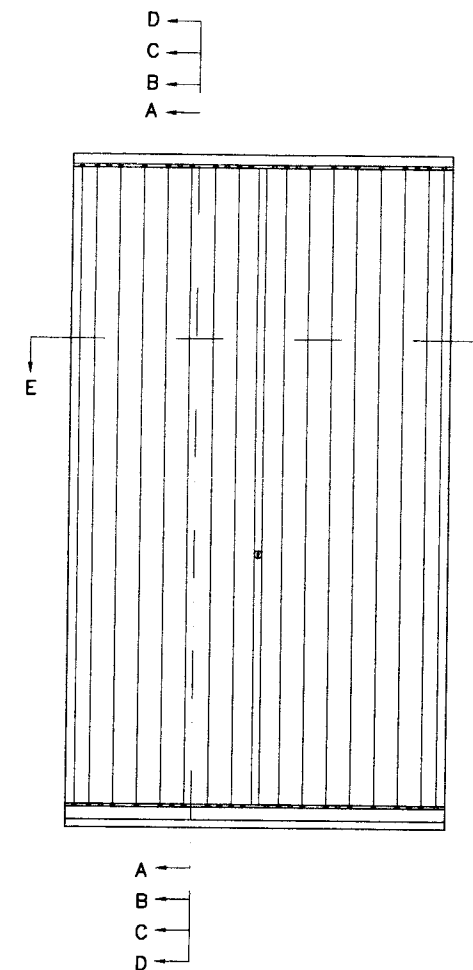
SECTION A-A

INSIDE MOUNTS

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	4	3	-	-
B	5	2	-	-
D	4	2	-	-
E	-	-	4	-
G	-	-	-	3



SECTION B-B



TYPICAL ELEVATION

HEADER AND SILL DETAILS CAN BE USED IN ANY COMBINATIONS.

Approved as complying with the
Florida Building Code
Date: 10/04/2007
NOA# 07-0507.06
Miami Code Product Control
Division
By: Helmy A. Matar

Engr: DR. HUMAYOUN FAROOQ
STRUCTURES
FLA. PE # 16557
C.A.N. 3538

SEP 10 2007

FOR GENERAL NOTES AND EXTRUSION DETAILS SEE SHEET 1 OF 6.
FOR WOOD INSTALLATIONS SEE SHEET 5 OF 6.
FOR ANCHOR CHARTS SEE SHEET 6 OF 6.

Ed = TYPICAL EDGE DISTANCE
CONC. & BLOCK = 12d (12 ANCHOR DIAMETERS)
WOOD = 5d
FOR LESSER EDGE DISTANCES SEE SHEET 6 OF 6.

ANCHORS: EMBEDMENT & EDGE
DISTANCES SHOWN ARE BEYOND
THE WALL & FLOOR COVERING
(STUCCO, TILES, ETC.)

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

SERIES HS-1000 ALUM ACCORDION SHUTTER

USA ALUMINUM LLC
11 S.W. 12TH AVE. SUITE #104
DANIA, FL. 33004
TEL. (954) 924-4015 FAX. (954) 924-4013

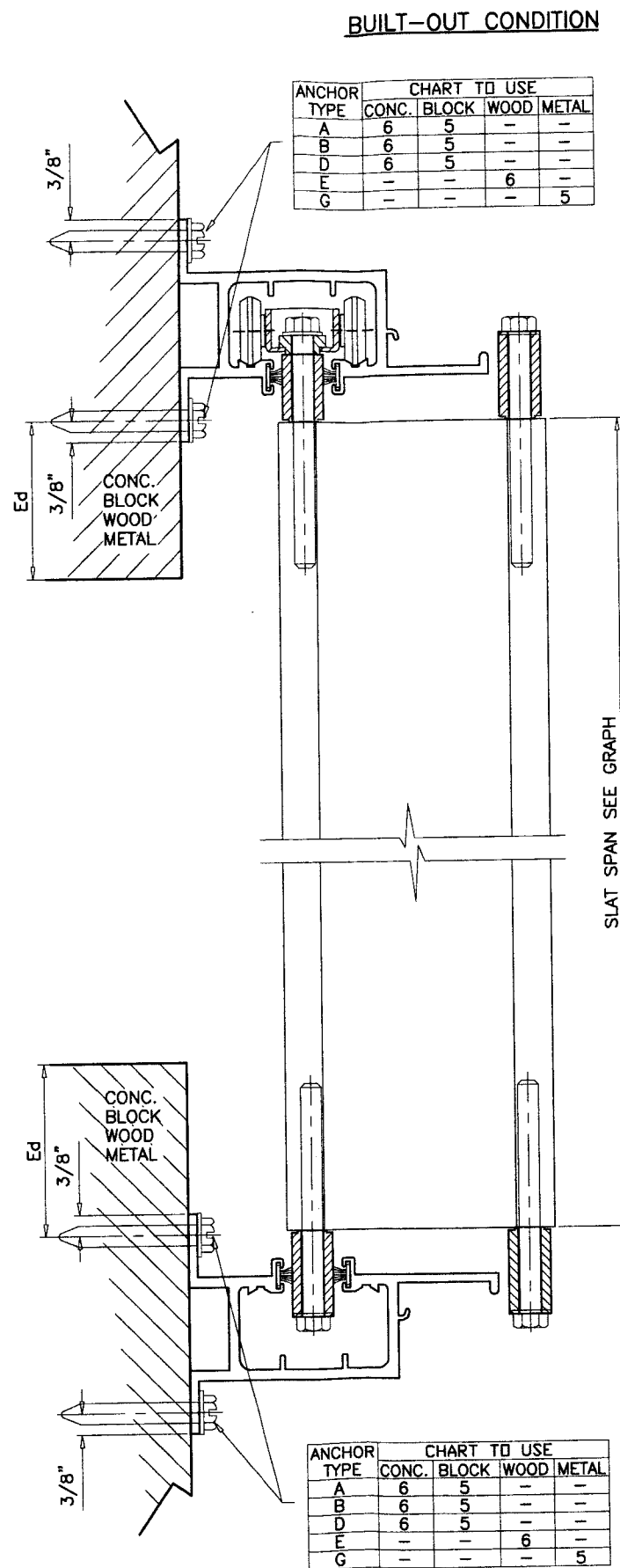
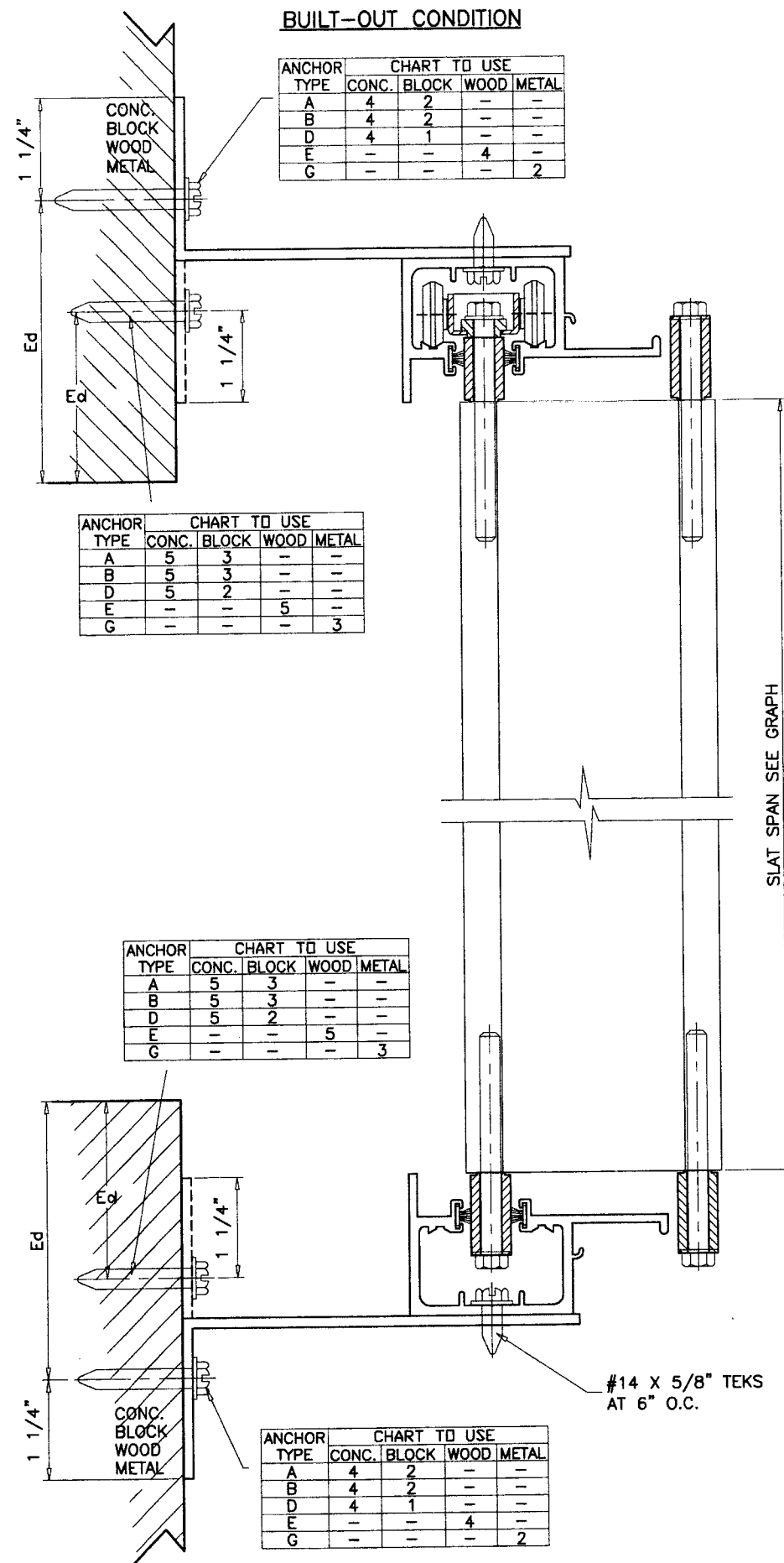
no.	date	description
1	10/04/2007	REV. PER BCCO COMMENTS

date:	03-13-07
scale:	1/2" = 1"
dr. by:	HAMID
chk. by:	

drawing no.
07-06

sheet 3 of 7

ACCORDION/07-06UAL



Approved as complying with the
Florida Building Code
Date: 10/04/2007
NOAH 07-0507.06
Miami Code Product Control
Division: *Helmy A. M. M.*
By: *Helmy A. M. M.*

Engr: DR. HUMAYOUN FAROOQ
STRUCTURES
FLA. PE # 16557
C.A.N. 3538

SEP 10 2007

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978

ACCORDION/07-06UAL

SERIES HS-1000 ALUM ACCORDION SHUTTER

USA ALUMINUM LLC
11 S.W. 12TH AVE. SUITE #104
DANIA, FL. 33004
TEL. (954) 924-4015 FAX. (954) 924-4013

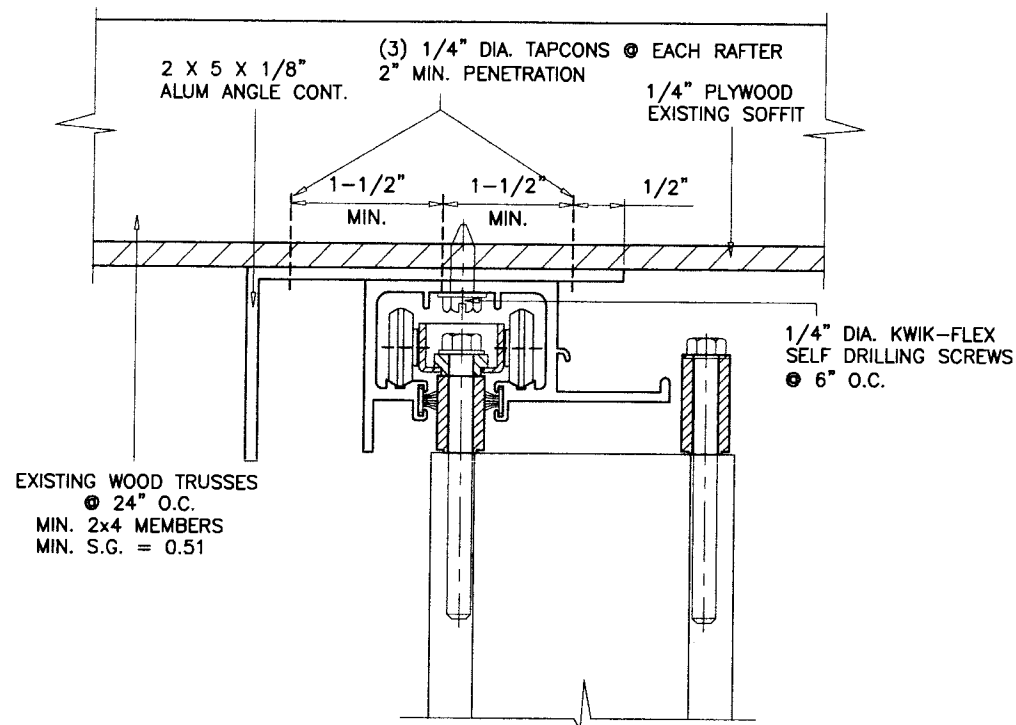
revisions:		no		date		by		description	
		A		08.29.07				REV. PER BCCO COMMENTS	

date:	03-13-07	scale:	1/2" = 1"	dr. by:	HAMID	chk. by:	
-------	----------	--------	-----------	---------	-------	----------	--

drawing no.
07-06

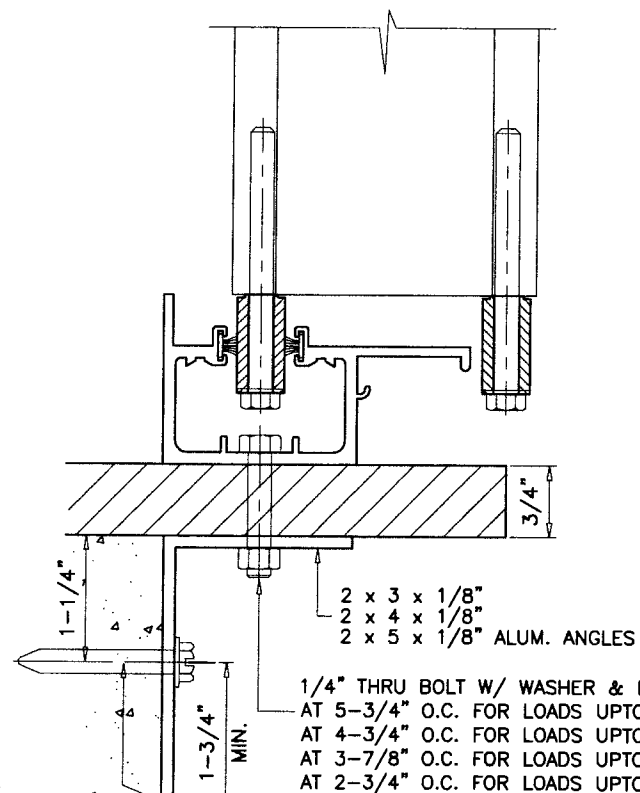
sheet 4 of 7

drawing no.
07-06
sheet 5 of 7



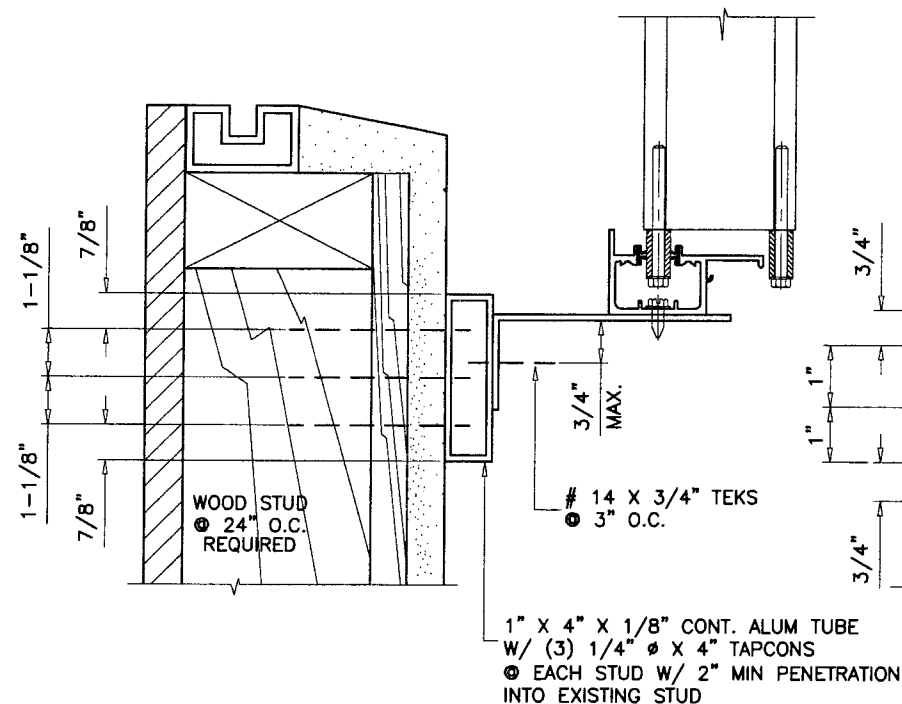
HEADER CONNECTION TO WOOD TRUSSES

FOR SHUTTER HEIGHT OF 72" MAX. DESIGN LOAD = 91 PSF
 FOR SHUTTER HEIGHT OF 84" MAX. DESIGN LOAD = 78 PSF
 FOR SHUTTER HEIGHT OF 96" MAX. DESIGN LOAD = 68 PSF
 FOR SHUTTER HEIGHT OF 108" MAX. DESIGN LOAD = 61 PSF



COUNTER TOP CONDITION
 (PASS THRU WINDOW)
 MAX SHUTTER HEIGHT = 6 FT.

ANCHOR TYPE	ANCHOR SPACING INCHES							
	UPTO 50 PSF		UPTO 60 PSF		UPTO 75 PSF		UPTO 104 PSF	
A	6	6	6	5.4	6	4.3	6	3.1
B	6	6	6	5.3	6	4.2	6	3.1
E	-	6	-	6	-	6	-	6
G	-	-	6	-	-	-	6	4.3

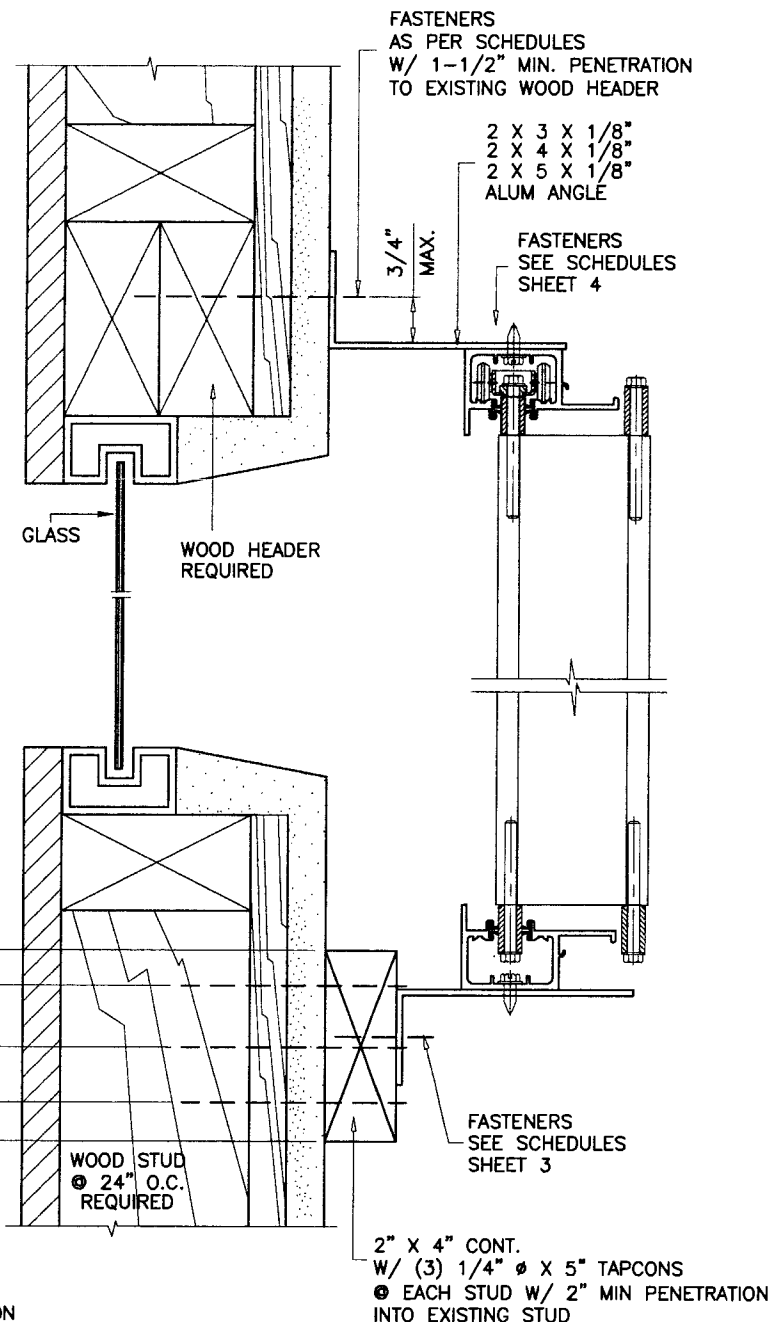


FOR SHUTTER HEIGHT OF 84" MAX. DESIGN LOAD = 78 PSF
 FOR SHUTTER HEIGHT OF 96" MAX. DESIGN LOAD = 68 PSF
 FOR SHUTTER HEIGHT OF 108" MAX. DESIGN LOAD = 61 PSF
 FOR SHUTTER HEIGHT OF 120" MAX. DESIGN LOAD = 55 PSF

INSTALLATION DETAIL ON EXISTING WOOD BUCKS SCALE: 1/4"=1"

ABOVE DETAILS SHOWS CONNECTION OF 2X4 BUCK & 1X4 ALUM TUBE TO WOOD STUDS TO PROVIDE A CONTINUOUS SURFACE FOR SHUTTER INSTALLATION.

FOR INSTALLATION DETAILS OF HEADER/SILL TO CONTINUOUS WOOD MEMBERS SEE SHEETS 3 & 4.



Approved as complying with the
 Florida Building Code
 Date: 10/04/2007
 NOA# 07-0507.06
 Miami Rapid Permit Control
 Division
 By: Helmy A. Makh

Engr: DR. HUMAYOUN FAROOQ
 STRUCTURES
 FLA. PE # 16557
 C.A.N. 3538

SEP 10 2007

AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 1235 S.W. 87 AVE
 MIAMI, FLORIDA 33174
 TEL. (305) 264-8100 FAX. (305) 262-6978

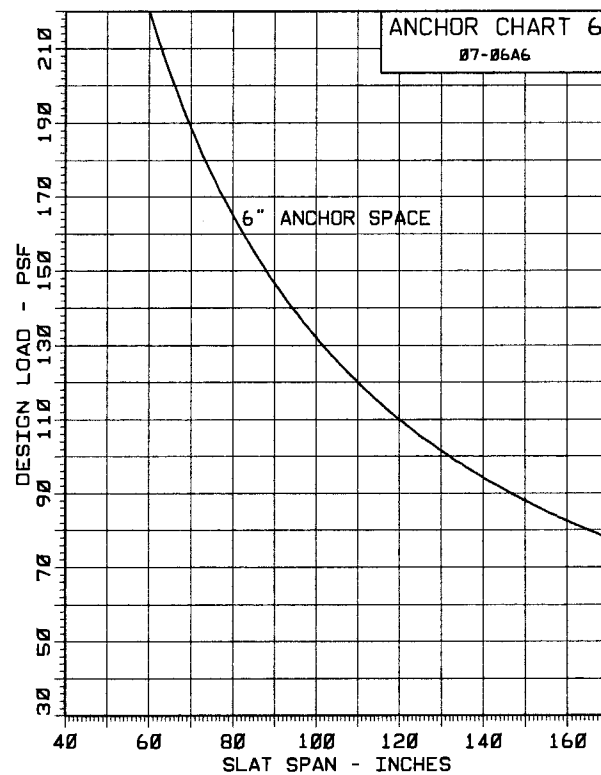
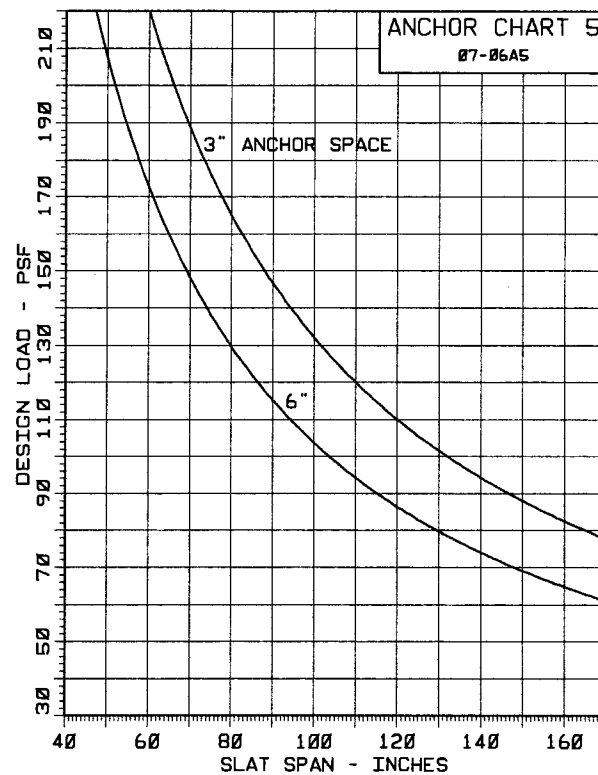
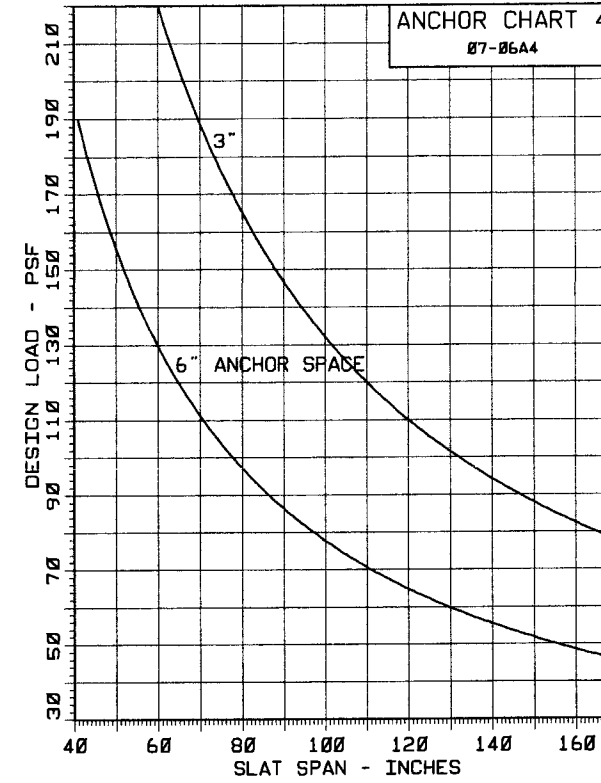
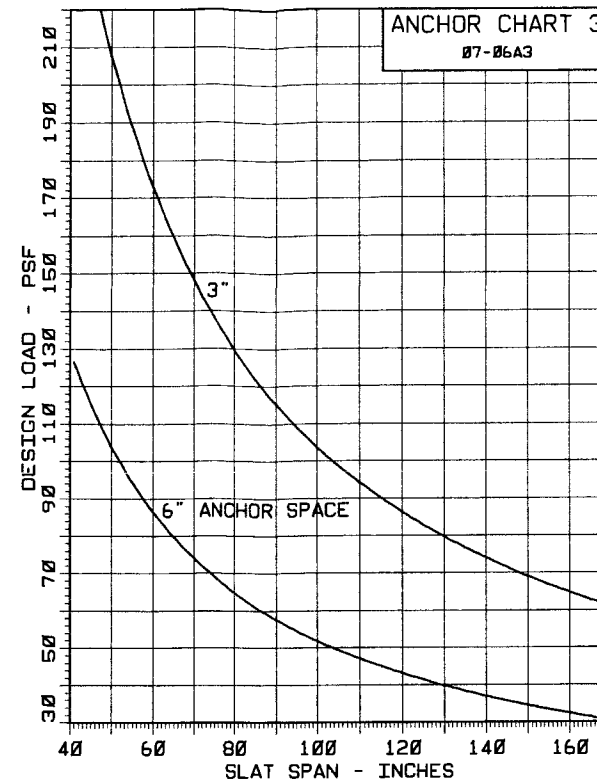
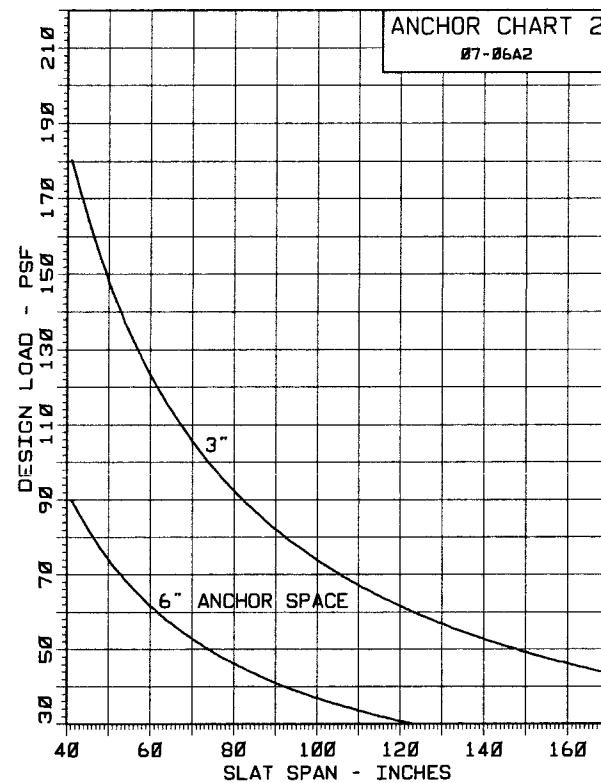
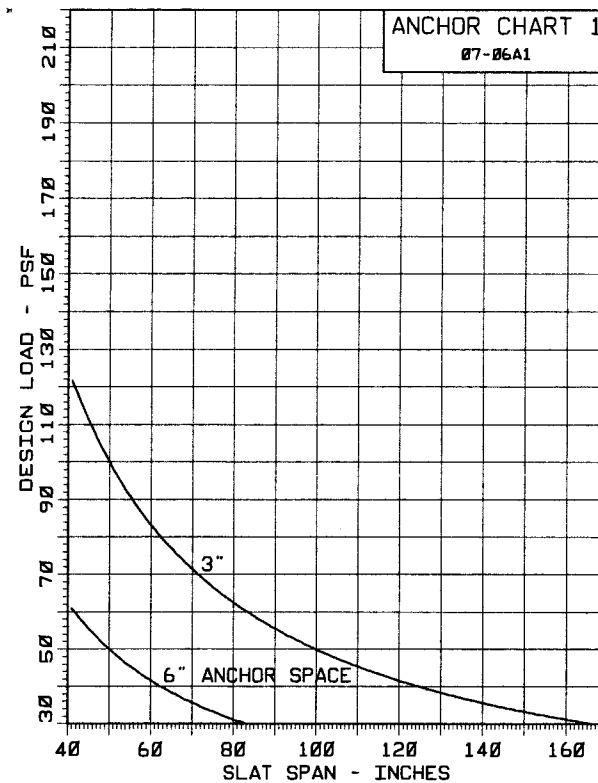
SERIES HS-1000 ALUM ACCORDION SHUTTER
USA ALUMINUM LLC
 11 S.W. 12TH AVE. SUITE #104
 DANIA, FL. 33004
 TEL. (954) 924-4015 FAX. (954) 924-4013

revisions:	no	date	by	description	REV. PER BCCO COMMENTS
	A	08.29.07			

date: 03-13-07
 scale: 1/2" = 1"
 dr. by: HAMID
 chk. by:

drawing no.
07-06

sheet 6 of 7



ALL TRACK ANCHORS AT 1 IN. FROM ENDS
AND SPACED AS PER CHARTS

TYPICAL ANCHORS:

ANCHOR (A) = 1/4" DIA. TAPCONS (BY ELCO)

1-3/4" EMBEDMENT INTO 3000 PSI CONC.
1-1/4" EMBEDMENT INTO C-90 BLOCK

ANCHOR (B) = 1/4" DIA. KWIKCON II (BY HILTI)

1-3/4" EMBEDMENT INTO 3000 PSI CONC.
1-1/4" EMBEDMENT INTO C-90 BLOCK

ANCHOR (D) = 1/4" RAWL CALK-IN

TOTAL ANCHOR BODY INTO 3000 PSI CONC.
OR C-90 BLOCK

ANCHOR (E) = 1/4" DIA. TAPCONS

1-1/2" MIN PENETRATION INTO WOOD(S.G.=0.55)

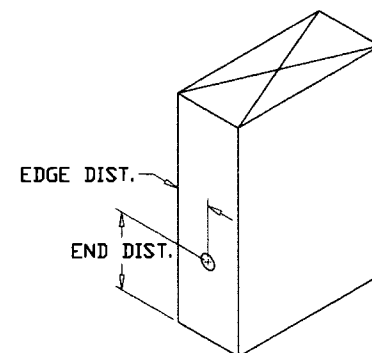
ANCHOR (G) = 1/4" DIA. KWIK-FLEX SELF DRILLING SCREWS

INTO METAL STRUCTURES
(STEEL OR ALUMINUM 1/8" MIN. THICK.)

NOTE: ANCHORS EMBEDMENT SHOWN IS BEYOND WALL & FLOOR
COVERINGS (STUCCO, TILES, ETC.)

Approved as complying with the
Florida Building Code
Date: 10/04/2007
NOAH 07-0507-06
Miami Dade Product Control
Division By: Helmy A. Mada

FASTENER SPACING IN MASONRY/CONCRETE					
CHARTS ARE BASED ON TYPICAL EDGE DISTANCE = 12d. FOR LESSER EDGE DISTANCE DECREASE SPACING BY MULTIPLYING WITH THE FACTOR BELOW					
EDGE DIST.	12d=3"	10d=2-1/2"	8d=2"	6d=1-1/2"	5d=1-1/4"
FACTOR	1.00	0.86	0.71	0.57	0.50
EXAMPLE: FOR 3" EDGE DIST. SPACING = 6" O.C. (FROM CHART)					
FOR 2" EDGE DIST. SPACING = 6 X .71 = 4.3 O.C.					
TYPICAL EDGE DISTANCE IN WOOD = 3/4"					
TYPICAL END DISTANCE IN WOOD = 1"					
NO REDUCTION FACTOR IS REQUIRED					



USE CHARTS 1 THRU 8 TO VERIFY ANCHOR
REQUIREMENTS AND STRESS LIMITATIONS OF
LOAD/SPAN COMBINATIONS FOR HEADER AND SILL.

Engr: DR. HUMAYOUN FAROOQ
STRUCTURES
FLA. PE # 16557
C.A.N. 3538

SEP 10 2007

af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
ACCORDION/07-06JAL

SERIES HS-1000 ALUM ACCORDION SHUTTER
USA ALUMINUM LLC
11 S.W. 12TH AVE. SUITE #104
DANIA, FL. 33004
TEL. (954) 924-4015 FAX. (954) 924-4013

revisions:	no.	date	by	description
	A	08.29.07		REV. PER BCCO COMMENTS

date: 03-13-07
scale: 1/2" = 1"
dr. by: HAMID
chk. by:

drawing no.
07-06
sheet 7 of 7